

What is claimed is:

1. An apparatus for injecting plasma in the atmosphere, the apparatus comprising:

a plurality of dielectric panels 13a, 13b, 13c, and 13d, which are disposed in parallel at predetermined intervals;

a gas supply portion 14, to which the dielectric panels 13a, 13b, 13c, and 13d are fixed and which supplies a gas to spaces between the dielectric panels 13a and 13b, between the dielectric panels 13b and 13c, and between the dielectric panels 13c and 13d;

power electrodes 15a, 15b, and 15c, which are linearly installed near the gas supply portion 14 and between the dielectric panels 13a and 13b, between the dielectric panels 13b and 13c, and between the dielectric panels 13c and 13d, respectively;

ground electrodes 16a, 16b, 16c, and 16d, which are formed in the ends of the dielectric panels 13a, 13b, 13c, and 13d, respectively; and

a high frequency generator 17, which applies high frequency power to the power electrodes 15a, 15b, and 15c and the ground electrodes 16a, 16b, 16c, and 16d.